



Bay Area Defense Conversion Action Team Environmental Technology Partnership

a presentation by
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on

A Consensus Approach to Introducing Innovation in Bay Area Cleanup

Defense Environmental Restoration Task Force
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Partners - Local Resources, National Leverage

- **Bay Area Regional Technology Alliance (BARTA)**
- **Bay Area Economic Forum (BAEF)**
- **California Environmental Protection Agency (Cal/EPA)**
- **Center for Public Environmental Oversight (CPEO), S.F. State University (formerly known as CAREER/Pro)**
- **Chevron**
- **Engineering Field Activity West, U.S. Navy (EFA West)**
- **Naval Facilities Engineering Service Center (NFESC)**
- **U.S. Environmental Protection Agency (US EPA)**

Goals-

Faster, Better, Cheaper Bay Area Cleanup

- 1. To address the barriers and gaps in environmental technology development and commercialization.**
- 2. To help expedite cleanup, transfer of properties, and economic conversion of Bay Area military bases.**
- 3. To stimulate growth of the region's environmental technology industries.**

Program-

Field Tests to Technology Transfer

- Consensus priorities drive solicitation of innovative and emerging technologies
- Vendor-funded demonstrations
- On-site tours
- Cooperative, critical review by regulators and end users
- Tech Data sheets
- Key forums: Triservices, BCT roundtables, and Trade show
- Web Exposure: CPEO's TechTree

History-

Evolving Priorities

- 1994 -BADCAT formed, host environmental technology roundtables
- 1995 -BADCAT ETP MOU signed and business plan developed
- 1996 -First solicitation: characterization and remediation of metals and petroleum in soil - most prevalent contaminants
- 1997 -First round demonstrations: Klohn-Crippen & On-Site Laboratories
 - Environmental Technology Needs Assessment done base by base.
 - Fast Track Demonstration: Terratherm
- 1998 -Geokinetics treatability study reviewed
 - Tech Data Sheets and Technology Transfer
 - Second solicitation: guided by assessment
- 1999 -Second round demonstrations: Groundwater Monitoring, Bioremediation, and Lead Paint Abatement

Accomplishments- From Consensus to Contracts

- Consensus and synergy
- Leveraging private investment with public oversight
- Implementation and technology transfer of innovations
- Local economic development and employment
- Certification and permitting
- Potential for national impacts

Goal One:

Addressing Commercialization Barriers

- Klohn Crippen: SOIL WASHING SYSTEM
 - **\$2 million in private venture capital after demo.**
 - Pilot test supported claims that full scale system could significantly reduce volume of soil sent to a toxic landfill by segregating metals from soil.
- Terratherm Environmental Services: IN-SITU THERMAL DESORPTION (ISTD)
 - Cal/EPA Permit Assistance Centers expedited field access
 - Cal/EPA technology certification
 - National TOSCA permit
 - Interstate Technology and Regulatory Cooperation (ITRC) Working Group

Goal Two:

Technology Transfer

- On-Site Laboratories: EXDRF FIELD ANALYSIS
 - Contract through NFESC's Broad Agency Agreement. (BAA)
 - Characterization at Camp Pendleton, CA
 - Rapid field analysis with 35 samples/day
 - Below cost of off-site analysis
- Terratherm Environmental Laboratories: IN-SITU THERMAL DESORPTION
 - Contract through BAA
 - Remediation at Naval Facility Centerville Beach, CA
 - Removing PCB's partially under a building desired for reuse
 - Also addressing PAH/TCE

Goal Three:

Stimulate Local Industry Growth

Local offices or headquarters:

- Geokinetics (Berkeley): In-situ Electokinetic Remediation of Metals
- On-Site Laboratories (Fremont): EDXRF Field Screening of Metals
- Precision Sampling (San Rafael): Groundwater Monitoring and Characterization
- Industrial Ecosystems (Pacifica): Bioremediation of Petroleum
- Oasis Nuclear (affiliate in Milpitas): Ice Blasting Lead Abatement

Local hiring:

- Terratherm hired 30 local contractors

Challenges- Balancing Interests

- How achieve Inter-and Intra-agency cooperation and communication simultaneously?
- Cheapest and/or fastest, always most effective?
- Unknown potentials or known deliverables?
- Destruction of contaminants-with potential residual - or removal of contaminants - with potential of displacement of hazard?
- Local technology development, local contracting, or application of the fastest and best remediation option to expedite safe reuse of base - can we combine?

Barriers- Uncertainty Compounded by Mistrust

- Risk aversion
- Scientific uncertainty
- Regulatory uncertainty
- Market uncertainty
- Mistrust, fear, resentment, and conflict compounded by unequal power and finances

Lessons- Take- Home Message

If Bay Area Cleanup is to be “Faster, Better, and Cheaper” the federal government must support technological innovation with:

- Institutional flexibility
- Interagency cooperation
- Strong community input, and response to local needs and priorities
- Open communication and trust building

Tools needing further exploration include:

- Performance based contracts
- Risk management
- Permit streamlining

and of course without CLEAN UP FUNDING there is no market and no innovation!